Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In the Matter of	
Universal Service Reform	WT Docket No. 10-208
Mobility Fund	

COMMENTS OF GENERAL COMMUNICATION, INC.

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SUMMARY

General Communication, Inc. ("GCI") submits these comments in response to the Commission's Notice of Proposed Rulemaking regarding its proposed Mobility Fund.

Although well-intentioned, the Mobility Fund as outlined will do little to help those portions of Alaska that lack broadband, whether fixed or mobile. The Mobility Fund posits a scenario that is unlikely to exist in Alaska – that areas exist where costs of network construction and upgrades are the only barriers to 3G (or better) mobile broadband service. In Alaska – and likely elsewhere – the areas that most lack broadband, including mobile broadband, are those with both high network construction costs and high operating costs. The Mobility Fund NPRM not only proposes no funding for operating costs, but also myopically focuses on last-mile connection speed, ignoring – as did the National Broadband Plan ("NBP") – the critical lack of middle-mile facilities necessary to bring broadband to areas such as rural Alaska.

Most likely, the Mobility Fund as currently structured will simply accelerate the upgrade of 2G networks that may be two or three years further down wireless carriers' capital build lists – with funding flowing to areas that the market would likely support on its own over time. Such areas would almost certainly not include Alaska. Yet the NPRM contains no safeguards against such a misuse of scarce Universal Service Fund ("USF") resources.

Most importantly, the Commission must not assume that a Mobility Fund will justify a phase-out of high-cost USF support across the board for wireless carriers in Tribal Lands such as Alaska. Rather, for Alaska and other tribal areas, the inadequacy of the Mobility Fund underscores the need to retain the current Tribal Lands exception to the CETC cap in order to support continued expansion of wireless service to unserved areas.

In addition, the FCC should not view a separate Tribal Mobility Fund as a substitute for the current Tribal Lands exception to the interim cap; any fund that focuses on only capital costs and ignores operating expenses will be doomed to fail on the Tribal Lands where support is most needed. Rather, retaining the current Tribal Lands exception and incorporating a similar policy into any Connect America Fund ("CAF") support will do more for Tribal Lands deployment than a one-time, Tribal Lands-specific Mobility Fund. The Mobility Fund's inadequacy for addressing Alaska's challenges also suggests that the CAF will need to reflect more comprehensively the infrastructure support needs of mobile, as well as fixed, broadband service in the highest cost, hardest-to-serve portions of the country.

If it implements a Mobility Fund, at a minimum, the Commission should (1) establish performance criteria between the end user and the Tier 1 POP, not just from the handset to the wireless tower or local aggregation point; and (2) create a mechanism to ensure that the Mobility Fund does not support 3G build out in areas in which the applicant or another provider would have built out 3G without Mobility Fund support.

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I. INTRODUCTION

General Communication, Inc. ("GCI") submits these comments in response to the Commission's *Mobility Fund NPRM*.[1]

Under the existing Tribal Lands exception to the CETC cap, GCI is conducting a landmark statewide deployment of modern 2G digital wireless services to areas of rural Alaska that never before had such service. Over the past two years and continuing through 2012, GCI is creating the first truly statewide wireless network that is providing Alaskans with the ability – taken for granted in most of the lower 48 – to roam between villages, and from villages to Alaska's urban centers, the rest of the United States, and the world.

Due to middle-mile constraints discussed further below, the Mobility Fund as proposed will not transform GCI's 2G deployment into a 3G network, and will do little to bring broadband – fixed or mobile – to those portions of Alaska that lack broadband service. The Commission therefore must not assume that the availability of one-time funding for last-mile 3G deployment

[1] *Universal Service Reform; Mobility Fund,* Notice of Proposed Rulemaking, WT Docket No. 10-208 (rel. Oct. 14, 2010) ("*Mobility Fund NPRM*").

under the Mobility Fund will provide sufficient support to justify a phase-out of high-cost USF support across the board, or the current Tribal Lands high cost support regime.

If the Commission implements a Mobility Fund, GCI urges it to establish appropriate network performance criteria and to create a mechanism to ensure that the Mobility Fund does not support already-planned 3G build out.

II. THE MOBILITY FUND WILL NOT TARGET SUPPORT TO THE AREAS MOST IN NEED

By its fundamental design, the proposed Mobility Fund will not target areas most in need of USF support for 3G services, and thus cannot be a solution for mobile broadband deployment in rural Alaska and other extreme remote areas. According to the American Roamer data cited in the NPRM, 98.5 percent of the population nationwide resides in areas with access to 3G services.[2] The Mobility Fund presumably seeks to deliver 3G or better service to the remaining 1.5 percent of the population. Unfortunately, the Mobility Fund is unlikely to accomplish this goal, particularly in Alaska, due to the Fund's limited size and purpose.

A. The Mobility Fund Is Inadequate to Meet the Most Significant 3G Deployment Problems in Rural Areas, Including the Lack of Adequate Middle-Mile Facilities

The proposed Mobility Fund would be a one-time $100-$300 million fund to expand current generation (*i.e.* 3G) wireless service.[3] At that level of expenditure, the Mobility Fund would be inadequate to significantly impact the support needs for those rural areas least likely to receive 3G wireless services without universal service support.

For example, in rural Alaska, the most significant barrier to higher speed broadband services of any type – wireline or wireless – is the lack of sufficient broadband middle-mile that

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2 *Mobility Fund NPRM*, ¶ 30.

3 *Mobility Fund NPRM*, ¶ 13.

has the capability to expand with demand. Satellite capacity is limited and will not grow cost-effectively as demand expands.[4] Without adequate middle-mile capacity, however, it makes little sense to deploy high-capacity last-mile data capabilities, such as 3G, because for the vast majority of traffic that connects to data outside of the villages, limited middle-mile transmission facilities will throttle transmission speeds.

Middle-mile capacity is costly to construct and operate. For example, GCI's TERRA-Northwest second round Rural Utilities Broadband Initiatives Program ("BIP") application – which was not granted – sought $108 million in grants and $46 million in loans to fund the construction of an end-to-end middle-mile terrestrial broadband service from the Internet backbone in Anchorage to the nearly 4,000 households and 300 businesses in 20 rural Tribal communities scattered across more than 80,000 square miles in the Norton Sound and Kotzebue Sound regions of Alaska. This funding was in addition to $88 million in loan and grant BIP funds awarded to construct the TERRA-Southwest project, which itself was an upgrade of DeltaNet, a terrestrial microwave second-mile network in the remote Yukon-Kuskokwim Delta originally supported through the RUS Distance Learning and Telemedicine Program.

There can be little doubt that many areas in rural Alaska require universal service support to deploy broadband service meeting the Commission's goals; there is no broadband service, wireline or wireless, in many areas today. But the cost of bringing 3G services to those areas alone could exhaust the entire Mobility Fund.

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[4] *See, e.g.*, Comments of General Communication, Inc., GN Docket Nos. 09-47, 09-51, 09-137 at 2 (filed November 4, 2009); Comments of Alaska Communications Systems Holdings, Inc., GN Docket Nos. 09-47, 09-51, 09-137 at 4,7, 9-10 (filed November 4, 2009).

B. Support for One-Time Construction Costs Without Supporting Ongoing Operations and Maintenance Costs Will Confine Mobility Fund Support to Lower Cost Areas

Because of its one-time nature, the Mobility Fund can support only one-time network deployment or upgrade costs, and not ongoing operations and/or maintenance costs. Operations and maintenance would have to be self-sustaining, or come from other parts of the USF that the Commission presumably will address in the CAF Notice of Proposed Rulemaking. However, both the upfront construction costs and the ongoing network operations and maintenance costs are likely to be large and require direct or indirect support.

It is not clear for which areas the upfront capital costs stand as the lone obstacle to 3G deployment, *i.e.*, areas in which 3G has not been deployed, but which could sustain the operations and maintenance costs without ongoing support. The NBP and its work papers did not attempt to quantify the number of such areas, nor does the NPRM.

In GCI's experience, areas with high network construction costs also have high operations and maintenance costs. As just one example, the construction, operation, and maintenance of a middle-mile microwave network in rural Alaska requires not just flying in and erecting the microwave towers during a limited construction season, but also arranging for power to those isolated sites – which are not on any power grid; maintaining the capability to fly in to those sites even in the winter should repairs be necessary; and conducting the actual maintenance. Power alone in rural Alaska is very costly. Many rural Alaskan communities pay more than $0.50 per kWh,[5] while the national average for commercial retail electricity is about

[5] *See Table of Small Commercial Rates*, Alaska Village Electric Cooperative (April 1, 2010), http://www.avec.org/downloads/Small%20Commercial%20Rates.pdf.

$0.10 per kWh.[6] Low population density further exacerbates the impact of these high costs. For GCI's existing rural terrestrial middle-mile deployments outside of the road network, the current Tribal Lands CETC high cost regime, as well as E-Rate, Rural Healthcare, and Lifeline support all contribute to supporting the ongoing operation and maintenance.

Accordingly, as proposed, the Mobility Fund necessarily will direct support to the lowest cost "unserved" areas – those areas which may be on the edge of gaining service even without support – rather than those areas that will truly need support in order to have access to broadband services. By contrast, as demonstrated by GCI's successful deployments, the existing high-cost support mechanism is delivering effective support for last-mile facilities for those areas where high costs and low population combine such that deployment in the absence of support is not a "close call." It would not make sense to replace such support with an ineffective Mobility Fund.

C. The Mobility Fund's "Lowest [Support] Per-Unit" Auction Criteria Will Exclude Truly Rural Areas in Favor of Expanding Exurbs

The NPRM proposes a reverse auction to select Mobility Fund recipients on a "lowest [support] per-unit" basis.[7] The NPRM suggests that the most likely "unit" will be covered population, and possibly other characteristics, such as "road miles." Under this formulation (particularly using population), the areas most likely to win a "lowest [support] per-unit" auction are areas that are in the process of transforming from rural communities to exurbs. Those areas are likely to have larger populations over which support could be spread to yield low support per unit. Thus, such areas are the most likely to get to service within a small number of years, even without additional USF support.

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6 *See Average Retail Price of Electricity to Ultimate Customers by End-Use Sector, by State*, U.S. Energy Information Administration (June 16, 2010), http://www.eia.doe.gov/cneaf/electricity/epm/table5_6_a.html.

7 *Mobility Fund NPRM*, ¶¶ 18, 64.

Lowest support per covered population is unlikely to result in any support going to truly rural areas. One of the hallmarks of a rural (and high cost) area is low population density. Alaska's population density is the lowest in the nation – 1.2 persons per square mile as compared with 103.8 in the lower 48.[8] Many of the villages in rural Alaska are extremely tiny – with only a few hundred year-round residents. Even Alaska's regional centers have year-round populations of only a few thousand people. For example Barrow has a population of only approximately 4,000, and Nome a population of only approximately 3,500. In addition, approximately 120 Alaskan villages have fewer than 1,000 residents, many have fewer than 100 residents,[9] and several isolated villages, such as Kupreanof, Kasaan, Bettles, and False Pass, have fewer than 50 residents. With such small populations, rural Alaska is unlikely to be the winner of a "lowest support per newly served population" auction, even though its citizens are exactly those who would benefit most from enhanced USF support for wireless services.

Lowest support per "road mile" is equally problematic for rural Alaska – much of which lacks roads. No highways connect villages and regional centers. In fact, a distinguishing feature of rural Alaska is a lack of roads; nearly all access is by plane, boat, or snow machine. Thus, the proposed auction criteria would be hopelessly skewed against rural Alaska.

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8 *Cumulative Estimates of Resident Population Change for the United States, States and Puerto Rico: April 1, 2000 to July 1, 2009*, U.S. Census Bureau Population Estimates, http://www.census.gov/popest/gallery/maps/popdens-2009.html (last visited December 15, 2010).

9 *See* Alaska Community Database Custom Data Queries, State of Alaska, http://www.commerce.state.ak.us/dca/commdb/CF_CUSTM.htm (last visited December 15, 2010) (aggregating population figures for each Alaskan city).

D. The Mobility Fund Must Focus on Throughput from the End User to the Internet Backbone, Rather Than Just the Last Mile to Avoid Wasting Support Funds on "White Elephant" Deployments

Although the NPRM does not discuss expressly whether it is supporting last-mile, middle-mile, or both, the proposed proof-of-deployment metric reveals a focus on last-mile transmission speeds. Specifically, the NPRM proposes that recipients provide "drive test" data "showing mobile transmissions to and from the network meeting or exceeding . . . [an] outdoor minimum of 200 kbps uplink and 768 kbps downlink to handheld mobile devices at vehicle speeds up to 70 mph."[10] This metric suggests that the Commission is not even considering whether the backhaul facilities can support those speeds between the last mile and the Tier 1 backbone POP.

However, without sufficient backhaul capacity, the 200 kbps uplink and 768 kbps local downlink will simply be theoretical performance, as satellite capacity constraints will throttle end-to-end speeds and small villages will not be large enough to gain the benefits of local caching of substantial Internet content. In that situation, the Mobility Fund could potentially fund a 3G overbuild of an existing 2G wireless network without actually providing end-to-end 3G performance (and thus no service that could be truly called 3G or better).

This myopic focus on last-mile transmission speeds appears to be a carryover from the NBP's assumption that adequate middle-mile capacity would exist everywhere once last-mile broadband capabilities were in place.[11] That assumption is demonstrably incorrect, particularly

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[10] *Mobility Fund NPRM*, ¶ 40.

[11] *See* Federal Communications Commission, *Connecting America: The National Broadband Plan* at 156, n.1 (2010) ("NBP") ("Here, "access" refers only to the capability of the last-mile network. Service providers may, for any number of reasons, make only lower-speed services available to customers—in other words, the speeds or products to which consumers have access may not fully reflect network capabilities. Because access networks are the most capital-intensive elements of the broadband infrastructure, it is reasonable to expect that

in the case of areas such as Alaska.[12] It makes little economic sense to deploy (or fund) last-mile broadband technologies if the middle-mile requires substantial investment to be able to carry that traffic to and from the Internet.

A Mobility Fund that ignores end-to-end performance in favor of last-mile performance, and that therefore ignores problems of middle-mile transmission, is a recipe for waste by mis-targeting scarce USF support. The result will be funding "white elephant" deployments that cannot deliver the promised performance to and from the worldwide Internet.

To avoid this problem, the Commission should make clear that recipients of Mobility Fund support must be able to provide 200 kbps upload and 768 kbps download throughput between the end user handset and the Tier 1 POP, and not just from the handset to the tower. Alternatively, to avoid funding "white elephants" or overbuilds of 2G services without yielding true 3G connectivity to the worldwide Internet, the Commission should exclude from Mobility Fund eligibility any proposal that will not result in adequate middle-mile capacity to support the planned 3G deployment.

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providers will meet demand for higher speeds once the access network is capable of supporting such speeds."); *Cf.*, NBP Appendix A, at 343 (describing the BTOP approach as "By solving the middle-mile problem, the hope is to foster investment in 'last mile' facilities to provide service to individuals and institutions that need it.").

[12] These assumptions also lead the NBP dramatically to overestimate broadband coverage in Alaska. *See, e.g.*, Comments of General Communication, Inc, WC Docket Nos. 10-90, 05-337; GN Docket No. 09-51 at 17, n.2 (filed July 12, 2010); Reply Comments of General Communication, Inc, WC Docket Nos. 10-90, 05-337; GN Docket No. 09-51 at 10 (filed August 11, 2010); Comments of the Regulatory Commission of Alaska, WC Docket Nos. 10-90, 05-337, GN Docket No. 09-51 at 6-7 (filed July 12, 2010); Subsequent FCC data has confirmed the NBP's errors in estimating broadband availability in Alaska. *See, e.g.,*, *Inquiry Concerning the Deployment of Advanced Telecommunications Capability to All Americans in a Reasonable and Timely Fashion, and Possible Steps to Accelerate Such Deployment Pursuant to Section 706 of the Telecommunications Act of 1996, as Amended by the Broadband Data Improvement Act*; *A National Broadband Plan for Our Future*, Sixth Broadband Deployment Report, GN Docket Nos. 09-137, 09-51 at 27 (rel. July 20, 2010).

III. THE PROPOSED MOBILITY FUND LACKS SAFEGUARDS AGAINST FUNDING PROJECTS THAT WOULD BE BUILT WITHOUT ADDITIONAL SUPPORT

Structurally, the proposed Mobility Fund lacks safeguards against funding projects that would have been built without additional USF support. The NPRM appears to assume that 3G networks exist everywhere that it makes business sense to do so. But that is not necessarily the case. In smaller markets such as Alaska, for example, carriers have not rolled out 3G services ubiquitously, even in areas that are on the road networks. There are many contributing factors leading to this result, including the fact that smaller carriers (including GCI) do not have access to a full range of cutting-edge smartphones that are most likely to drive 3G subscribership, and that carriers cannot deliver a 3G experience due to middle-mile constraints. Furthermore, populations continue to change over time as development occurs. This change can shift a geographic area from one in which 3G was not an attractive investment to one that is.

As a check against funding deployments in areas where they would otherwise occur, the FCC should, at a minimum, require Mobility Fund applicants to certify that they had no previous plans to deploy 3G or better services within five years in the area for which they are seeking funding. The FCC should also permit other providers to eliminate from the Commission's consideration such areas if they are willing to certify that they plan to build or upgrade those areas within five years without Mobility Fund support (the equivalent of bidding $0).

IV. A SEPARATE TRIBAL LANDS MOBILITY FUND WOULD NOT BE A SUBSTITUTE FOR THE CURRENT TRIBAL LANDS EXCEPTION TO THE INTERIM CAP

The NPRM questions whether the Commission should reserve funds for developing a Mobility Fund support program targeted separately to Tribal Lands that trail national 3G

coverage rates.[13] While GCI would certainly welcome additional support for Tribal Lands, the problems with the Mobility Fund more generally, as discussed above, will preclude solving these same middle-mile and operating cost issues through a separate Tribal Land Mobility Fund. Accordingly, the FCC should not view a separate Tribal Land Mobility Fund as a substitute for the current Tribal Lands exception to the interim CETC cap. Rather, retaining that policy and extending it to any CAF will do more for deployment on Tribal Lands than a one-time, Tribal Lands-specific Mobility Fund.

[13] *Mobility Fund NPRM*, ¶ 33.

CONCLUSION

In summary, as proposed, the Mobility Fund will do little to bring broadband, whether fixed or mobile, to those portions of Alaska that lack broadband service. If the Commission does implement a Mobility Fund, it must not assume that the availability of funding under the Mobility Fund will provide sufficient support to justify a phase-out of high-cost USF support across the board, which GCI and other carriers are successfully using to deploy modern digital wireless services to areas that previously had no wireless service. In addition, the Commission should establish appropriate network performance criteria and create a mechanism to ensure that the Mobility Fund does not support already-planned 3G build out.

Respectfully submitted,

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